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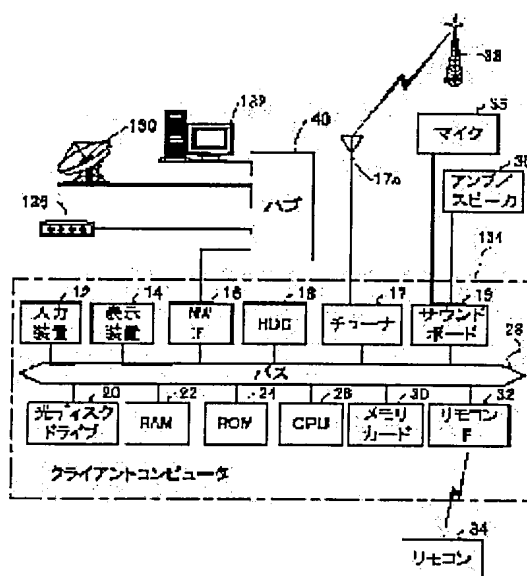
(72)Inventor : NIMURA KOUJI

(54) METHOD FOR CONTROLLING COMPUTER, COMPUTER, AND PROGRAM

(57)Abstract:

PROBLEM TO BE SOLVED: To easily operate a personal computer or the like in various forms by using a remote controller whose constitution is simple.

SOLUTION: An input device 12 is constituted of a full keyboard and a mouse, and a remote controller 34 is provided with the smaller number of keys than that of the full keyboard. When a series of operation information of the remote controller 34 is received through a remote control interface 32, a CPU 26 generates a pseudo keyboard event corresponding to this. For example, when [*], [0], [1] and [#] are depressed in the remote controller 34, the pseudo event of [Cont]+[Alt]+[A] is generated.



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CLAIMS

[Claim(s)]

[Claim 1] It is the control approach performed in this computer in order to control a computer by the remote-operation signal. A series of remote-operation signals, The process in which the correspondence information which matches the keyboard event or mouse event which should be generated, and changes is memorized in memory, The computer control approach characterized by having the process which generates a false keyboard event or a false mouse event based on the process in which two or more remote-operation signals corresponding to two or more remote operation are received, two or more this received remote-operation signals, and said correspondence information.

[Claim 2] The computer control approach according to claim 1 characterized by having the process which switches said correspondence information according to the window which has a keyboard focus or a mouse focus.

[Claim 3] The computer characterized by performing an approach given in any of claims 1 or 2 they are.

[Claim 4] The program characterized by performing an approach given in any of claims 1 or 2 they are.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is used for appreciation of the karaoke in a personal computer, or various contents, and relates to the suitable computer control approach, a computer, and a program.

[0002]

[Description of the Prior Art] The improvement in the engine performance of a personal computer in recent years is remarkable, and also when appreciating an animation in karaoke, the live, etc., it can respond enough. It is convenient, when using a personal computer for such entertainment, for example, if it can be operated after having a microphone, ingesta, etc. in one hand, or it can be operated in the condition of having sat on the sofa deeply. For this reason, various personal computers equipped with the remote control unit which can be operated single hand are also sold.

[0003]

[Problem(s) to be Solved by the Invention] By the way, the conventional remote control unit is equipment which only simplified the full keyboard, and the contents of actuation realizable [with a remote control unit] were limited. Of course, if the remote control unit equipped with the key equivalent to a full keyboard is created, it is possible to perform actuation equivalent to a full keyboard. However, from the first, since the remote control unit assumes a use mode in which a user grasps single hand and operates a key with the thumb of the grasped hand, it is deficient in having a key equivalent to a full keyboard to implementability. This invention is made in view of the situation mentioned above, and it aims at offering the computer control approach, computer, and program which can operate a personal computer etc. in a variegated mode simply.

[0004]

[Means for Solving the Problem] If it is in this invention in order to solve the above-mentioned technical problem, it is characterized by providing the following configuration. In addition, the inside of a parenthesis is instantiation. If it is in a configuration according to claim 1, it is the control approach performed in this computer in order to control a computer by the remote-operation signal. A series of remote-operation signals, The process in which the correspondence information (drawing 12) which matches the keyboard event or mouse event which should be generated, and changes is memorized in memory. The process in which two or more remote-operation signals corresponding to two or more remote operation are received (step SP 82), It is characterized by having the process (step SP 86) which generates a false keyboard event or a false mouse event based on two or more received this remote-operation signals and said correspondence information. Furthermore, if it is in a configuration according to claim 2, in the computer control approach according to claim 1, it is characterized by having the process which switches said correspondence information according to the window which has a keyboard focus or a mouse focus. Moreover, if it is in a configuration according to claim 3, it is characterized by performing an approach given in any of claims 1 or 2 they are. Moreover, if it is in a configuration according to claim 4, it is characterized by performing an approach given in any of claims 1 or 2 they are.

[0005]

[Embodiment of the Invention] 1. Explain the whole configuration 1.1. configuration of an operation gestalt, next the whole entertainment system configuration of 1 operation gestalt of this invention with reference to drawing 1 . In drawing, 150 is a distribution server which a contents provider employs, and offers various contents through the Internet 140. Here, as contents offered, it is the live image of methods on demand, such as application programs, such as a multimedia file for karaoke, a game, and fortune-telling, a concert, and a lecture, etc. Moreover, the mobil radio communication networks 160, such as PHS and a cellular phone, are connected to the Internet 140. For this reason, a contents need person can order the distribution server 150 the contents which wish to distribute using the subscriber terminals 170, such as PHS and a cellular phone.

[0006] 180 is live studio and live images, such as a concert and a lecture, are recorded here. The recorded image is transmitted to the distribution server 150 through the Internet 140. Thereby, as mentioned above, these contents are distributed to a need person through the Internet 140 from the distribution server 150. However, since necessary transmission capacity becomes large in order to distribute the live image of a format on demand etc., distributing only by the Internet 140 may not necessarily be economical for a need person. For example, since the transmission capacity of 1.5Mbps extent is required in order to transmit one live image, in order to transmit six channels simultaneously, the transmission capacity of 9Mbps extent is needed.

[0007] Then, the live image of a format on demand [these] is multiplexed, is transmitted to the satellite

communication earth station 110 through the ATM circuit 112, and is distributed to each need person through a communication satellite 100 from here. Here, it is classified into the individual user who mainly appreciates and uses each contents at home at a "need person", and the member's store user who is a contents provider's franchise member's store and provides a customer with each contents for pay. 122 is the personal computer of the stand-alone type mainly used by the individual user, and it receives other contents through the Internet 140 and a router 124 while it receives a live image through the satellite communication receiver 120. The member's store user receives other contents through a router 136 while he has two or more client computers 134 and the server computer 132 which manages these and receives a live image through the satellite communication receiver 130.

[0008] Next, the detail configuration of a member's store user's client computer 134 is explained with reference to drawing 2. In drawing, 12 is an input device and consists of a full keyboard, a mouse, etc. 14 is a display and displays various kinds of information on the user of a client computer 134. 26 is CPU and controls each part in a client computer 134 through a bus 28 based on the program mentioned later. 16 is a network interface and is connected with the satellite communication receiver 130, the router 136, and the server computer 132 grade through the hub 40. That is, the Local Area Network (member's store LAN) is formed with these components 130, 132, 136, and 40.

[0009] In the interior of a client computer 134, 18 is a hard disk drive and stores application programs, such as an operating system and a browser, a device driver, various contents, etc. 20 is an optical disk drive and reads the contents of the optical disks, such as CD-ROM, DVD-RAM, etc. which were set. 22 is RAM and an operating system, an application program, etc. are developed here. 24 is ROM and the initial program loader of CPU26 etc. is stored. 30 is a memory card, and attachment and detachment of it are attained to the client computer 134, and it memorizes contents, such as a multimedia file for karaoke. 32 is a remote control interface and receives an infrared remote control signal from the remote control unit 34 formed outside.

[0010] 17 is a tuner, it receives the terrestrial broadcasting transmitted from the television transmitting station 33 through antenna 17a, changes into a digital signal the image and sound signal which were received, and outputs them through a bus 28. 19 is a sound board, changes into an analog signal the digital sound signal supplied from CPU26 while sampling the sound signal supplied from the microphone 35, changing into the digital signal and supplying CPU26, compounds a musical-sound signal based on the performance information (MIDI signal) supplied further, and pronounces it through amplifier / loudspeaker 36. As mentioned above, although the configuration of a client computer 134 was explained, the same is said of the configuration of the personal computer 122 of a stand-alone type, and the server computer 132.

[0011] 1.2. the configuration of a remote control unit 34 — here, explain the configuration of a remote control unit 34 with reference to drawing 11. In drawing, 320 is a liquid crystal display and displays the contents of the operated key etc. 301, —, 301 are 12 numerical keypads, and the figure of "0" - "9" and the notation of "*" and "#" are stamped respectively. Numerical keypads 301, —, 301 are used mainly for the numerical input to a client computer 134, an alphabetic character input, etc.

[0012] 302 is an arrow key and consists of four keys showing the direction of "it is (UP) a top", "the bottom (DOWN)", "the right (RIGHT)", and "the left (LEFT)". These keys fix to a disk and this disk is rockable in the direction of four directions. For this reason, an "it is (UP) top" "the bottom (DOWN)", "right (RIGHT)", and "left (LEFT)" key is alternatively turned on according to the rocking direction. 303 is the PLAY key and directs playback initiation of contents etc. 304 is the PAUSE key and directs a halt of playback of contents etc. 305 is the STOP key and directs the playback termination of contents etc. 306 is the REQUEST key, and in karaoke application etc., it is used in order to reserve a tune number number.

[0013] 307 is the CANCEL key, and in karaoke application etc., it is used in order to cancel reservation of a tune number number etc. 308 is a setting key, and it is used in order to perform accommodation of various parameters, such as sound volume. 309 is a conversion key and is used for a "kana-kanji conversion." In addition, although not illustrated especially, it has the transmitter which transmits the actuation condition of the key mentioned above as an infrared remote control signal to a remote control unit 34.

[0014] 2. Explain starting of the of operation 2.1. launcher program of an operation gestalt, next actuation of this operation gestalt. First, if the power source of a client computer 134 is switched on, the initial program loader stored in ROM24 will be performed, and an operating system will start. In this operating system, since it logs on to the domain which the server computer 132 manages, the input screen of a user name and a password is displayed. Here, when a ***** user name and a ***** password are entered through the keyboard of an input device 12, the domain concerned logs on to a client computer 134. Thereby, it enables a client computer 134 to transmit and receive a packet between the server computer 132, the satellite communication receiver 130, the router 136 grade, other computers, and peripheral devices which were connected to the member's store LAN.

[0015] Next, the operating system of a client computer 134 recognizes read-out and the application program which should be performed automatically for the contents of the predetermined start-up directory in a hard disk drive 18. In this operation gestalt, the shortcut of a launcher program is contained in the start-up directory, and, thereby, a launcher program is performed automatically. If a launcher program is started, the window of a launcher program will be displayed on an indicating equipment 14, and the icons 51-60 shown in drawing 3 will be displayed on the interior.

[0016] Icons 51-60 support respectively karaoke, a movie, a game, fortune-telling, a school, the live, the Internet, electronic commerce, a lot, other program contents, or service. It is the name of the channel of the live image of the format on demand that a "movie", a "school", and the "live" are offered here through a communication satellite

100. The application program of karaoke which "karaoke" mentions later, and a "game" point out the game corresponding to a lot of people performed through the game or the Internet 140 beforehand installed in the client computer 134. The "Internet" is a connection service to the Internet 140. Moreover, "fortune-telling", "electronic commerce", and a "lot" point out the service connected to the specific homepage on the distribution server 150 through the Internet 140.

[0017] 2.2. When an operating system starts in actuation and the client computer 134 of the driver of the remote control interface 32, the driver program of the remote control interface 32 and the table corresponding to an event are read into RAM22 from a hard disk drive 18. An example of this table corresponding to an event is shown in drawing 12 (a). The table corresponding to an event is a table which matched the key stroke of 1 or two or more remote control units 34, and a keyboard event or a mouse event. For example, in this drawing, a series of key strokes of [*], [0], [1], and [#] are matched with ON / off keyboard event of [Cont]+[Alt]+ [A]. Similarly, a series of key strokes of [*], [0], [2], and [#] are matched with ON / off keyboard event of [Cont]+[Alt]+ [B]. In addition, in a keyboard event, it is shown that the notation of "+" is turned on to coincidence in a certain moment.

[0018] Moreover, the key stroke (one piece) of the PLAY key 303 is matched with ON / off keyboard event of [F1] key. Moreover, the key stroke of a remote control unit 34 may be matched not only with a keyboard event but with the mouse event. For example, the UP key of an arrow key 302 is matched with the migration event of a mouse cursor in this drawing. The movement magnitude of a mouse cursor is set as a predetermined value (for example, 50 dots) in that case.

[0019] However, there is no need of using the table corresponding to an event with a default, and it is possible to switch suitably according to the application program actually controlled. For example, this drawing (b) matches the arrow key 302 of a remote control unit 34 with the keyboard event of the UP key in a certain application program. Moreover, it is also possible to set the arrow key 302 of a remote control unit 34 as a value (for example, 70 dots) which is different from a default only in movement magnitude with matching like a default at the migration event of a mouse cursor.

[0020] In a driver program, the actuation signal of the remote control unit 34 received with the remote control interface 32 is monitored continuously, and if the event of a remote control unit 34 is detected, the remote control event processing routine shown in drawing 13 will be started. If processing progresses to a step SP 82 in drawing, the key by which the event was detected will be memorized by the remote control buffer (predetermined field in RAM22). For example, if the event of the [*] key was detected, the information which shows the [*] key will be memorized by the remote control buffer.

[0021] next, if processing progresses to a step SP 84, the contents of the table corresponding to an event corresponding to the window which has a keyboard focus at present will be referred to, and it will be judged by the event memorized in the remote control buffer whether a keyboard event or a mouse event completes [*] here. Here, if an event is not completed by [*], it is judged with "NO", and processing of this routine is completed. Next, if [0] and the [1] key are pressed one by one in a remote control unit 34, the same processing as the [*] key will be performed, and [*], [0], and [1] will be memorized by the remote control buffer.

[0022] Next, if the [#] key is pressed, [#] will be memorized by the remote control buffer in a step SP 82. The contents of storage of the remote control buffer at this time are [*], [0], [1], and [#], and the event indicated by these at the 2nd line of drawing 12 (a) has completed them. Therefore, in a step SP 84, it is judged with "YES", and processing progresses to a step SP 86. Here, the event hung up over the 2nd column of drawing 12 (a) is generated, and it is transmitted to an operating system. In the above-mentioned example, the on-event of [Cont]+[Alt]+ [A] is generated first and the off event of [Cont]+[Alt]+ [A] is generated by after an appropriate time.

[0023] Thereby, in an application window with a keyboard focus, the same processing as the case where [Cont]+[Alt]+ [A] is pushed in the keyboard of an input device 12 is performed. If [Cont]+[Alt]+ [A] is assigned to the shortcut key of an application program A (for example, karaoke application program) in the operating system, a karaoke application program will be started by this actuation. Also to actuation of [*], [0], [2], and [#] - [*], [0], [9], and [#], it is similarly assigned to the shortcut key of [Cont]+[Alt]+ [A] - [Cont]+[Alt]+ [I], and program contents, such as a movie, a game, and fortune-telling, or service will be performed by actuation which a remote control unit 34 requires.

[0024] Next, actuation when the PLAY key 303 is pressed in a remote control unit 34 is explained. According to drawing 12 (a), itself has completed the event of the PLAY key 303 independently. Therefore, if "PLAY" is memorized by the remote control buffer in a step SP 82, the event of "F1" key will be transmitted to an operating system through a step SP 84. Therefore, the same processing as the case where "F1" key of the keyboard of an input device 12 is pressed will be performed at this case in the application window which has a keyboard focus. Thus, in this operation gestalt, it can substitute for all actuation to the keyboard of an input device 12 by actuation of a remote control unit 34.

[0025] 2.3. In selection, now the launcher program of an application program, if the icons 51-60 mentioned above are displayed, a mouse cursor is placed on a default icon (here icon 51), and this icon will be in a selection condition. A display mode is changed so that the icon which changed into the selection condition can be distinguished from the icon in the condition of not choosing. For example, the icon of a selection condition is displayed more brightly than the icon in the condition of not choosing. Thus, it is same to change a display mode according to a selection condition also in other windows mentioned later. Here, if a user operates the arrow key of a remote control unit 34, it will change into a selection condition the icon which adjoins in the direction shown by the arrow key among the icons of a current selection condition, and the icon which was in the selection condition from the first will be set as

the condition of not choosing.

[0026] If it was in the above-mentioned example, in the condition immediately after the display of icons 51-60, only the default icon 51 was in the selection condition, but if a user does the depression of the "left" key of a remote control unit 34 here, an icon 52 will be in a selection condition and an icon 51 will be in the condition of not choosing. By such user interface, a user can operate only an arrow key and can set the icon of arbitration as a selection condition. And if a user does the depression of the REQUEST key after the desired icon has changed into a selection condition, the contents corresponding to the icon concerned will be started.

[0027] Moreover, not only the remote control unit 34 but the mouse of an input unit 12 can perform selection of contents, and motive actuation. That is, if a mouse cursor is located in the icon corresponding to desired contents and a mouse button is clicked, it will be started at the same time the contents corresponding to the icon concerned are chosen. Furthermore, even if it operates the numerical keypad of a remote control unit 34 and inputs [*,] [0], [1], [#], etc., it is possible to start corresponding contents.

[0028] 2.4. If the icon 51 for karaoke is chosen and started in processing drawing 3 in the starting 2.4.1. request window 62 of karaoke application, a karaoke application program will be started. Here, if a user does the depression of the REQUEST key in a remote control unit 34, the request window 62 shown in drawing 4 will be displayed on a display 14. In drawing, 64 is the 1st reservation display and displays the tune number number (the 1st reservation music) of the multimedia file of the karaoke which should be reproduced next. 66 is the 2nd reservation display and displays the tune number number (the 2nd reservation music) of the multimedia file of the karaoke which should be reproduced by the degree of the 1st reservation music. However, a tune number number is not inputted into the 2nd reservation display 66 in the state of illustration, but only cursor is displayed. 68 is the reservation music numeral section and displays the current number of reservation music.

[0029] The operating system of a client computer 134 gives a keyboard focus and a mouse focus to the request window 62, and if the event produced according to the actuation information on an input device 12 or actuation of a remote control unit 34 is detected, the contents will be memorized by the FIFO memory as a message queue. And corresponding to the request window 62, the request window message-processing routine shown in drawing 6 is started.

[0030] If processing progresses to a step SP 1 in drawing, processing will stand by until a new message queue occurs. Here, if a new message queue occurs, processing will progress to a step SP 2 and processing will branch according to the contents of the message queue. First, when the message queue concerned is the numerical keypad of the keyboard (henceforth "remote control unit 34 grade") of a remote control unit 34 or an input device 12, processing progresses to a step SP 4.

[0031] Here, the figure corresponding to the numerical keypad concerned is added to the 1st reservation display 64 or the 2nd reservation display 66. And if the figure of 1 corresponding to the input of the numerical keypad of 1 is added to the 1st reservation display 64 or the 2nd reservation display 66, processing will return to a step SP 1. Thereby, a user can do sequential reservation of the desired tune number number, if a numerical keypad is pushed.

[0032] Here, if the CANCEL key is pressed in remote control unit 34 grade and a message queue to that effect is detected in a step SP 1, processing will progress to a step SP 8 through a step SP 2. In addition, although the key name of a remote control unit 34 is mainly used in the following explanation of operation, all actuation in a remote control unit 34 is replaceable to actuation of the input unit 12 equivalent to this. For example, actuation of the PLAY key in a remote control unit 34, the PAUSE key, the REQUEST key, the STOP key, the CANCEL key, etc. can be permuted by actuation of correspondence function key [F1] - [F12] in the keyboard of an input device 12.

[0033] Now, in a step SP 8, the all-songs number inputted into the 1st reservation display 64 and the 2nd reservation display 66 is canceled. Moreover, if keys other than a numerical keypad, the CANCEL key, and the PLAY key are pressed and a message queue to that effect is detected, processing will progress to a step SP 10 through a step SP 2, and various processings corresponding to the key concerned will be performed.

[0034] 2.4.2. the processing in a playback window -- if a user does the depression of the PLAY key as mentioned above after reservation of a desired tune number number is completed, processing will progress to a step SP 6. Here, while a playback window (not shown) is displayed, the request window 62 is set as a non-display condition. Here, a playback window is a window which displays the image reproduced from the multimedia file, and words. In a playback window, sequential playback of the multimedia file of the reserved tune number number is carried out, and, thereby, a user can enjoy karaoke.

[0035] Here, a keyboard focus and a mouse focus are given to a playback window by the operating system. And the playback window message-processing routine shown in drawing 7 corresponding to a playback window is started. If processing progresses to a step SP 11 in drawing, processing will stand by until a new message queue occurs. Here, if a new message queue occurs, processing will progress to a step SP 12 and processing will branch according to the contents of the message queue.

[0036] First, if the PAUSE key of remote control unit 34 grade is pressed, processing will progress to a step SP 14 and the halt condition of a multimedia file will be switched. Namely, if the PAUSE key is pressed during playback, playback will stop, and if the PAUSE key is pressed during a halt, a multimedia file will be in a playback condition. Moreover, if the STOP key is pressed, processing will progress to a step SP 16, playback of the multimedia file which was under playback will be stopped, and playback of the multimedia file of the following tune number number in a reservation list will be started.

[0037] Moreover, a push on the REQUEST key of remote control unit 34 grade advances processing to a step SP 20. Here, a transparency indication of the request window 62 mentioned above on the playback window is given.

That is, the background of the request window 62 becomes a playback window. In a playback window, although playback of a multimedia file is continued, a keyboard focus and a mouse focus are given to the request window 62, and the request window message-processing routine (drawing 6) mentioned above is performed.

[0038] For this reason, while a certain user looks at the playback window of this background and it can continue karaoke, other users can operate remote control unit 34 grade, and can reserve delivery and the following tune number number for a message queue to the request window 62. When the PLAY key is pressed in this request window message-processing routine, as mentioned above, in a step SP 8, the request window 62 will be in a non-display condition, and only a playback window will be again displayed on a display 14. And a keyboard focus and a mouse focus are again given to a playback window.

[0039] Here, in remote control unit 34 grade, if keys other than the PAUSE key, the STOP key, a setting key, and the REQUEST key are pressed and a message queue to that effect is detected, processing will progress to a step SP 22 through a step SP 12, and various processings corresponding to the key concerned will be performed. Moreover, if a setting key is pressed in remote control unit 34 grade, processing will progress to a step SP 18 and a transparency indication of the setting window shown in drawing 5 will be given on a playback window.

[0040] 2.4.3. The processing setting window in a setting window (drawing 5) is a window for adjusting parameters, such as sound volume, and a keyboard focus and a mouse focus are given to this setting window. In drawing 5 , 82 is a pitch controller and indicator 82b which displays the shift condition of a pitch as numeric-display 82a which carries out the digital readout of the shift condition of the present pitch visually is displayed. Indicator 82b displays the shift condition of a pitch at present by pointer 82c which is displayed on a longitudinal direction long and slender, and is displayed on it.

[0041] 83 is a speed controller and adjusts the playback speed of a multimedia file. 84 is the microphone volume control section and adjusts the sound volume of microphone voice. 85 is an echo controller and adjusts the echo given to microphone voice. 86 is a delay controller and adjusts the amount of delay given to microphone voice. 87 is the volume control section and adjusts the sound volume of the whole which doubled microphone voice and a musical-sound signal. 88 is the melody volume control section and adjusts the melody sound volume in a musical-sound signal. 89 is a tone-quality controller and adjusts the voice grade to emphasize.

[0042] Next, a keyboard focus and a mouse focus are given to a setting window (drawing 5) by the operating system of a client computer 134. And corresponding to a setting window, a setting window message-processing routine (drawing 8) is started. If processing progresses to a step SP 30 in drawing 5, the pitch controller 82 will be set as a selection condition as a default setting item.

[0043] Next, if processing progresses to a step SP 31, processing will stand by until a new message queue occurs. Here, if a new message queue occurs, processing will progress to a step SP 32 and processing will branch according to the contents of the message queue. First, a push on the UP key of remote control unit 34 grade advances processing to a step SP 34. Here, it changes into a selection condition the setting item which adjoins upward in drawing 5 among the setting items of the present selection condition, and the setting item which was in the selection condition from the first is set as the condition of not choosing. Moreover, a push on the DOWN key advances processing to a step SP 36. Here, it changes into a selection condition the setting item which adjoins downward in drawing 5 among the setting items of the present selection condition, and the setting item which was in the selection condition from the first is set as the condition of not choosing.

[0044] Moreover, a push on the RIGHT key advances processing to a step SP 38. Here, the amount of setup is increased only for a predetermined value (+5) about the setting item of a current selection condition. Moreover, a push on the LEFT key advances processing to a step SP 40. Here, only in a predetermined value (-5), the amount of setup decreases about the setting item of a current selection condition. Thus, a user can set up a desired value to a desired setting item by operating an arrow key. Moreover, if keys other than an arrow key and a setting key are pressed, processing will progress to a step SP 44 and various processings according to the key will be performed. And if a setting key is pressed, processing will progress to a step SP 42 and a setting window (drawing 5) will be closed. By this, only a playback window will be again displayed on a display 14. Thus, various parameters can be adjusted in this operation gestalt, continuing karaoke by giving a transparency indication of the setting window in piles in a playback window, while a user looks at the playback window of this background.

[0045] 2.5. If the icon 56 for live image reception is chosen and started in starting drawing 3 of live image receiving application, live image receiving application will be started. In this application program, two windows 200,210 as shown in drawing 9 (a) are displayed on a display 14. Here, a window 200 is a playback window which reproduces a live image etc., and displays the live image received through the live image or tuner 17 received through the satellite communication receiver 130.

[0046] Moreover, a window 210 is a channel viewing window, and it is indicated by transparency on this playback window 200, and it displays the source of supply of the animation displayed in the playback window 200. In the interior of the channel viewing window 210, 211 is a root display and indicates one side by selection among a "satellite" or the "terrestrial" root. 212 is a channel number display and displays the channel number chosen in the root concerned.

[0047] Here, since a transparency indication of the channel viewing window 210 is given on the playback window 200, the contents of the playback window 200 will be displayed on a part for the background of the channel viewing window 210. Next, a keyboard focus and a mouse focus are given to the channel viewing window 210 by the operating system of a client computer 134. And corresponding to the channel viewing window 210, a channel viewing-window message-processing routine (drawing 10) is started.

[0048] If processing progresses to a step SP 60 in drawing, processing will stand by until a new message queue occurs. Here, if a new message queue occurs, processing will progress to a step SP 62 and processing will branch according to the contents of the message queue. First, a push on the UP key of remote control unit 34 grade advances processing to a step SP 64. Here, the channel number by which it is indicated by current is increased only for "1" to the channel number display 212. Moreover, a push on the DOWN key advances processing to a step SP 66. Here, only in "1", the channel number by which it is indicated by current decreases to the channel number display 212.

[0049] Moreover, a push on the RIGHT key advances processing to a step SP 68. Here, it changes into a selection condition the root which adjoins rightward [of the root by which current selection is made in the root display 211], and the root which was in the selection condition from the first is set as the condition of not choosing. Moreover, a push on the LEFT key advances processing to a step SP 70. Here, it changes into a selection condition the root which adjoins leftward [of the root by which current selection is made in the root display 211], and the root which was in the selection condition from the first is set as the condition of not choosing.

[0050] Moreover, a push on a numerical keypad advances processing to a step SP 72. Here, according to the pushed numerical keypad, the figure in the channel number display 212 is changed. As mentioned above, if a channel number or the root is changed in steps SP64-SP72, according to this, a setup of a tuner 17 and the satellite communication receiver 130 will be changed, and the image which the image of the specified root and a channel is received, consequently is displayed on the playback window 200 will be switched.

[0051] Termination of processing [which / of steps SP64-SP72] advances processing to a step SP 74. Here, the channel viewing window 210 is set as a transparency display condition. In addition, the condition will be continued if it is in a transparency display condition from the first. Furthermore, in a step SP 74, a timer set demand is performed to an operating system. This demand is required of an operating system so that a time-out message may be supplied after predetermined time progress.

[0052] After the above processing is completed, processing returns to a step SP 60, and a message queue awaits it again, and it will be in a condition. Then, if the above-mentioned predetermined time passes while remote control unit 34 grade has not been operated at all by it, a time-out message will be supplied from an operating system. If this message is supplied, processing will progress to a step SP 76 through a step SP 62, and it will be required of an operating system so that the channel viewing window 210 may set it as a non-display condition. Consequently, an operating system will set the channel viewing window 210 as a non-display condition, and as shown in drawing 9 (b), only the playback window 200 will be displayed on a display 14.

[0053] If a user operates an arrow key or a numerical keypad in remote control unit 34 grade in this condition, processing of a step SP 74 will be performed again and the channel viewing window 210 will be set as a transparency display condition. Moreover, in remote control unit 34 grade, if an arrow key or keys other than a numerical keypad are pressed and a message queue to that effect is detected, processing will progress to a step SP 78 through a step SP 62, and various processings corresponding to the key concerned will be performed.

[0054] As mentioned above, according to this operation gestalt, if a user operates remote control unit 34 grade, since the channel viewing window 210 will be set as a transparency display condition, selection of the root or a channel can be performed simply, looking at this window 210. Furthermore, also in a display condition, it is indicated by transparency, and if predetermined time passes, since a window 210 will be set as a non-display condition, it can control the hindrance at the time of a user appreciating the playback window 200 to the minimum.

[0055] 3. Modification this invention is not limited to the operation gestalt mentioned above, and various deformation is possible for it as follows.

(1) Although the above-mentioned operation gestalt realized the entertainment system with the software which operates on a personal computer, it can store and distribute the software used for the above-mentioned operation gestalt to record media, such as CD-ROM and a floppy (trademark) disk, or can also distribute it through a transmission line.

[0056] (2) In the live image receiving application of the above-mentioned operation gestalt, when a step SP 74 was performed, predetermined time passed and the time-out message was supplied, in a step SP 76, the channel viewing window 210 was set as the non-display condition. However, it may be [the viewing window] conspicuous and be made to carry out the channel viewing window 210 to replace with setting it as a non-display condition, for example, to carry out the reduced display of the alphabetic character in a window 210 etc. as compared with the condition of drawing 9 (a).

[0057]

[Effect of the Invention] Since a false keyboard event or a false mouse event is generated based on two or more received remote-operation signals and correspondence information according to this invention as explained above, it becomes possible to operate a personal computer etc. in a variegated mode simply.

[Translation done.]

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the whole entertainment system block diagram of 1 operation gestalt of this invention.

[Drawing 2] It is the detail block diagram of a client computer 134.

[Drawing 3] It is drawing showing the window of a launcher program.

[Drawing 4] It is drawing showing the request window 62.

[Drawing 5] It is drawing showing a setting window.

[Drawing 6] It is the flow chart of a request window message-processing routine.

[Drawing 7] It is the flow chart of a playback window message-processing routine.

[Drawing 8] It is the flow chart of a setting window message-processing routine.

[Drawing 9] It is drawing showing the example of a display of the display 14 in live image receiving application.

[Drawing 10] It is the flow chart of the window message-processing routine in live image receiving application.

[Drawing 11] It is the top view of a remote control unit 34.

[Drawing 12] It is drawing showing the example of the table corresponding to an event.

[Drawing 13] It is the flow chart of a remote control event processing routine.

[Description of Notations]

12 An input unit, 14 .. A display, 16 .. Network interface, 17 A tuner, 17a .. An antenna, 18 .. Hard disk drive, 19 A sound board, 20 .. An optical disk drive, 22 .. RAM, 24 [.. Memory card,] ROM, 26 .. CPU, 28 .. A bus, 30 32 A remote control interface, 33 .. A television transmitting station, 34 .. Remote control unit, 34th grade A remote control unit, 35 .. A microphone, 36 .. Amplifier/loudspeaker, 40 A hub, 51-60 .. An icon, 62 .. Request window, 64 The 1st reservation display, 66 .. The 2nd reservation display, 68 .. Reservation music numeral section, 82 A pitch controller, 82a .. A numeric display, 82b .. Indicator, 82c A pointer, 83 .. A speed controller, 84 .. Microphone volume control section, 85 An echo controller, 86 .. A delay controller, 87 .. Volume control section, 88 The melody volume control section, 89 .. A tone-quality controller, 100 .. Communication satellite, 110 A satellite communication earth station, 112 .. An ATM circuit, 120 .. Satellite communication receiver, 122 A personal computer, 124 .. A router, 130 .. Satellite communication receiver, 132 A server computer, 134 .. Client computer, 136 A router, 140 .. The Internet, 150 .. Distribution server, 160 A mobil radio communication network, 170 .. A subscriber terminal, 180 .. Live studio, 200 A playback window, 210 .. Channel viewing window, 211 A root display, 212 .. A channel number display, 301, —, 301 .. Numerical keypad, 302 [.. The STOP key, 306 / .. The REQUEST key, 307 / .. The CANCEL key, 308 / .. A setting key, 309 / .. A conversion key, 320 / .. Liquid crystal display.] An arrow key, 303 .. The PLAY key, 304 .. The PAUSE key, 305

[Translation done.]